



# Search Report

EIC 1700

STIC Database Tracking Number: 252486

To: CHRISTINE TIERNEY  
Location: REM-8A19  
Art Unit: 1700  
Wednesday, February 27, 2008  
  
Case Serial Number: 08757-088

From: KENDRA BANKS  
Location: EIC1700  
REM-4B28 / REM-4A28  
Phone: (571)272-2516  
  
kendra.banks@uspto.gov

## Search Notes

Examiner TIERNEY:

No Cases Reported

US 5,993,543



PATNO IS 5993543

DATE: FEBRUARY 27, 2008  
LIBRARY: PATENT  
FILE: ALL

Your search request is:  
PATNO IS 5993543

Number of PATENTS found with your search request through:  
LEVEL 1... 1

Your search request has found 1 PATENT through Level 1.  
To DISPLAY this PATENT press either the KWIC, FULL, CITE or SEGMENTS key.  
To MODIFY your search request, press the M key (for MODFY) and then the ENTER key.

For further explanation, press the H key (for HELP) and then the ENTER key.

LEVEL 1 - 1 PATENT

1. 5993543 , November 30, 1999 , Method of producing plasma display panel with protective layer of an alkaline earth oxide, Aoki, Masaki - Mino, Japan (JP); Torii, Hideo - Higashiosaka, Japan (JP); Fujii, Eiji - Hirakata, Japan (JP); Ohtani, Mitsuhiro - Sakai, Japan (JP); Inami, Takashi - Suita, Japan (JP); Kawamura, Hiroyuki - Katano, Japan (JP); Tanaka, Hiroyoshi - Kyoto, Japan (JP); Murai, Ryuichi - Toyonaka, Japan (JP); Ishikura, Yasuhisa - Katano, Japan (JP); Nishimura, Yutaka - Kadoma, Japan (JP); Yamashita, Katsuyoshi - Katano, Japan (JP), 890577 (08), Masaki Aoki Et Al., Japan (JP), Foreign company or corporation (03)

CORE TERMS: layer, sub, gas, glass, oxide, orientation, panel, magnesium oxide, dielectric, alkaline earth ...

LEVEL 1 - 1 OF 1 PATENT

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5993543

November 30, 1999

Method of producing plasma display panel with protective  
layer of an alkaline earth oxide

REISSUE: November 29, 2001 - Reissue Application filed, Ex. Gp.: 1765; Re. S.N.  
09/997,536 (O.G. May 28, 2002)  
November 29, 2001 - Reissue Application filed Ex. Gp.: 1765; Re. S.N. 09/997,988  
(O.G. May 21, 2002)  
May 18, 2006 - Reissue Application filed, Ex. Gp.: 2858; Re. S.N. 11/437,004  
(O.G. July 18, 2006)

APPL-NO: 890577 (08)

FILED-DATE: July 9, 1997

GRANTED-DATE: November 30, 1999

CORE TERMS: layer, sub, gas, glass, oxide, orientation, panel, magnesium oxide,  
dielectric, alkaline earth ...

5993543 OR 5,993,543

Your search request has found no ITEMS.

To edit the above request, use the arrow keys. Be sure to move the cursor to the end of the request before you enter it.

To enter a new search request, type it and press the ENTER key.

What you enter will be Search Level 1.

For further explanation, press the H key (for HELP) and then the ENTER key.

5993543 OR 5,993,543

Your search request has found no CASES.

To edit the above request, use the arrow keys. Be sure to move the cursor to the end of the request before you enter it.

To enter a new search request, type it and press the ENTER key.

What you enter will be Search Level 1.

For further explanation, press the H key (for HELP) and then the ENTER key.

**Current session 27/02/2008**

(C) QUESTEL 1994

QUESTEL.ORBIT (TM) 1998

Last connection: 21/02/08 16\*11\*38

27/02/08 16\*17\*43

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**Query/Command : FILE PLUSPAT**

QUESTEL - Time in minutes : 0,62  
The cost estimation below is based on Questel's  
standard price list

Estimated cost : 0.74 USD  
Cost estimated for the last database search : 0.74 USD  
Estimated total session cost : 0.74 USD

Selected file: PLUSPAT

PLUSPAT - (c) Questel, All Rights Reserved.  
RELOADED 02/2008 Comprehensive Worldwide Patents database  
Individual records for each Country or Patent Office  
Coverage: 78 patenting authorities; start dates vary from 1800 forward  
Abstracts/Titles in English, French & German. Increased standardization  
of Assignee/Inventor names. Added cited ref's BE,CH,NL,TR,AU,& JPB  
For PlusPat Fact Sheet, Pricing and FAQ, see the Questel website  
Last update of file: 2008/02/22 (YYYY/MM/DD) 2008-08/UP (last update)

Search statement 1

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**Query/Command : US5993543/PN****\*\* SS 1: Results 1**

Search statement 2

?

**Query/Command : PRT FULL NONSTOP LEGALALL**

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*1/1 PLUSPAT - ©QUESTEL-ORBIT - image*

PN - US5993543 A 19991130 [US5993543]

TI - (A) Method of producing plasma display panel with protective layer of an  
alkaline earth oxide

**PA** - (A) MASAKI AOKI (JP)

**PA0** - Masaki Aoki Et Al., [JP]

**IN** - (A) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**AP** - US89057797 19970709 [1997US-0890577]

**FD** - Divsn of US766030 19961216 [1996US-0766030]  
Division of: US5770921

**PR** - US89057797 19970709 [1997US-0890577]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
US76603096 19961216 [1996US-0766030]

**IC** - (A) C30B-023/00 C30B-029/16

**ICAA** - C30B-023/00 [2006-01 A - I R M EP]; C30B-029/16 [2006-01 A - I R M EP]

**ICCA** - C30B-023/00 [2006 C - I R M EP]; C30B-029/10 [2006 C - I R M EP]

**ICO** - T01J-217/491A  
T01J-217/492C4  
T01J-217/494

**PCL** - ORIGINAL (O) : 117088000; CROSS-REFERENCE (X) : 117101000  
117103000 117104000 117944000

**DT** - Basic

**CT** - US4198585 [US4198585] 313587000  
-US4584086 [US4584086] 204429000  
-US5458086 [US5458086] 117200000  
-US5604396 [US5604396] 313485000  
-US5818168 [US5818168] 313582000  
-US5844362 [US5844362] 313506000  
-EP279744 [EP-279744]  
-EP649159 [EP-649159]  
-JP5234519 [JP05234519]  
-JP5342991 [JP05342991]  
-JP6342631 [JP06342631]  
-GB2109628 [GB2109628]  
-WO9519027 [WO9519027]  
"E-Beam Evaporated Glass and MgO Layers for Gas Panel Fabrication," by K.C. Park et al., IBM J. Res. Develop., vol. 22, No. 6, Nov. 1978.  
- "Fluorescent Substance for Color Plasma Display Panel," by J. Koike, O Plus E, No. 195, 1996.  
- "Low-Voltage Operated AC Plasma-Display Panels", by T. Shinoda et al., IEEE Transactions on Electron Devices, vol. ED-26, No. 8, Aug. 1979.

**STG** - (A) United States patent

**AB** - The first object of the present invention is to provide a PDP with improved panel brightness which is achieved by improving the efficiency in conversion from discharge energy to visible rays. The second object of the present invention is to

provide a PDP with improved panel life which is achieved by improving the protecting layer protecting the dielectrics glass layer. To achieve the first object, the present invention sets the amount of xenon in the discharge gas to the range of 10% by volume to less than 100% by volume, and sets the charging pressure for the discharge gas to the range of 500 to 760 Torr which is higher than conventional charging pressures. With such construction, the panel brightness increases. Also, to achieve the second object, the present invention has, on the surface of the dielectric glass layer, a protecting layer consisting of an alkaline earth oxide with (100)-face or (110)-face orientation. The protecting layer, which may be formed by using thermal Chemical Vapor Deposition (CVD) method, plasma enhanced CVD method, or a vapor deposition method with irradiation of ion or electron beam, will have a high sputtering resistance and effectively protect the dielectrics glass layer. Such a protecting layer contributes to the improvement of the panel life.

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**1/1 LGST - ©EPO**

**PN** - US5993543 A 19991130 [US5993543]  
**AP** - US89057797 19970709 [1997US-0890577]  
**ACT** - 20020528 US/RF-A  
REISSUE APPLICATION FILED  
EFFECTIVE DATE: 20011129  
  
20060718 US/RF-A  
REISSUE APPLICATION FILED  
EFFECTIVE DATE: 20060518  
**UP** - 2006-29

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**1/1 CRXX - ©CLAIMS/RX**

**PN** - 5,993,543 A 19991130 [US5993543]  
**PA** - Masaki Aoki Et Al.  
**ACT** - 20011129 REISSUE REQUESTED  
ISSUE DATE OF O.G.: 20020521  
REISSUE REQUEST NUMBER: 09/997988  
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1765

Reissue Patent Number:

20011129 REISSUE REQUESTED  
ISSUE DATE OF O.G.: 20020528  
REISSUE REQUEST NUMBER: 09/997536  
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 1765

Reissue Patent Number:

Search statement 2

Query/Command : FILE INPADOC

LGST - Time in minutes : 0,02

The cost estimation below is based on Questel's  
standard price list

Estimated cost : 0.02 USD

Records displayed and billed : 1

Estimated cost : 0.70 USD

Cost estimated for the last database search : 0.72 USD

Estimated total session cost : 1.46 USD

CRXX - Time in minutes : 0,04

The cost estimation below is based on Questel's  
standard price list

Estimated cost : 0.08 USD

Records displayed and billed : 1

Estimated cost : 6.30 USD

Cost estimated for the last database search : 6.38 USD

Estimated total session cost : 7.84 USD

LITA - Time in minutes : 0,00

The cost estimation below is based on Questel's  
standard price list

Estimated total session cost : 7.84 USD

PLUSPAT - Time in minutes : 0,26

The cost estimation below is based on Questel's  
standard price list

Estimated cost : 0.80 USD

Records displayed and billed : 1

Estimated cost : 1.70 USD

Cost estimated for the last database search : 2.50 USD

Estimated total session cost : 10.34 USD

Selected file: PLUSPAT

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Abstracts/Titles in English, French & German. Increased standardization

of Assignee/Inventor names. Added cited ref's BE,CH,NL,TR,AU,& JPB

For PlusPat Fact Sheet, Pricing and FAQ, see the Questel website

Last update of file: 2008/02/22 (YYYY/MM/DD) 2008-08/UP (last update)

Search statement 2

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Query/Command : FAM US5993543/PN

1 Patent Groups

**\*\* SS 2: Results 14**

Search statement 3

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Query/Command : FAMSTATE NONSTOP

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**1/14 PLUSPAT - ©QUESTEL-ORBIT**

PN - DE69630004 D1 20031023 [DE69630004]  
STG - (D1) Granted EP number in bulletin  
OTI - (D1) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität  
PA - (D1) MATSUSHITA ELECTRIC IND CO LTD (JP)  
IN - (D1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)  
IC - (D1) H01J-017/16 H01J-017/20 H01J-017/49  
PN2 - DE69630004 T2 20040401 [DE69630004]  
STG2 - (T2) Trans. Of EP patent  
OTI2 - (T2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität  
PA2 - (T2) MATSUSHITA ELECTRIC IND CO LTD (JP)  
IN2 - (T2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)  
IC2 - (T2) H01J-017/16 H01J-017/20 H01J-017/49  
AP - DE69630004T 19961213 [1996DE-6030004]  
PR - JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
ICAA - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP]; H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP]; H01J-017/49 [2006-01 A - I R M EP]  
ICCA - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]  
EC - C23C-016/40D  
H01J-009/02  
H01J-017/04  
H01J-017/20  
H01J-017/49  
H01J-017/49D  
ICO - T01J-217/491A  
T01J-217/492B12  
T01J-217/494

T01J-237/31J2  
 T01J-237/32C  
 T01J-237/332B

**DT** - Corresponding document  
**UP** - 2003-43

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*1/1 LEGALI - ©EPO*

**PN** - DE69630004 D1 20031023 [DE69630004]DE69630004 T2 20040401  
 [DE69630004]  
**AP** - DE69630004 19961213 [1996DE-6030004]  
**ACTE** - 20041014 DE/8364-A [+]  
 NO OPPOSITION DURING TERM OF OPPOSITION  
**UP** - 2004-42

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*2/14 PLUSPAT - ©QUESTEL-ORBIT*

**PN** - DE69633148 DI 20040916 [DE69633148]  
**STG** - (DI) Granted EP number in bulletin  
**OTI** - (DI) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und  
 Herstellungsverfahren  
**PA** - (D1) MATSUSHITA ELECTRIC IND CO LTD (JP)  
**IN** - (D1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI  
 MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP);  
 TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA  
 (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)  
**IC** - (D1) C03C-017/34 H01J-017/49  
**PN2** - DE69633148 T2 20041230 [DE69633148]  
**STG2** - (T2) Trans. Of EP patent  
**OTI2** - (T2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und  
 Herstellungsverfahren  
**PA2** - (T2) MATSUSHITA ELECTRIC IND CO LTD (JP)  
**IN2** - (T2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI  
 MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP);  
 TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA  
 (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)  
**IC2** - (T2) C03C-017/34 H01J-017/49  
**AP** - DE69633148T 19961213 [1996DE-6033148]  
**PR** - JP32676695 19951215 [1995JP-0326766]  
 JP1632696 19960201 [1996JP-0016326]  
 JP16263996 19960624 [1996JP-0162639]  
 JP22342896 19960826 [1996JP-0223428]  
**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP];  
 H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP];  
 H01J-017/49 [2006-01 A - I R M EP]  
**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-

017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49  
 [2006 C - I R M EP]

**EC** - C23C-016/40D  
 H01J-009/02  
 H01J-017/04  
 H01J-017/20  
 H01J-017/49  
 H01J-017/49D

**ICO** - T01J-217/491A  
 T01J-217/492B12  
 T01J-217/494  
 T01J-237/31J2  
 T01J-237/32C  
 T01J-237/332B

**DT** - Corresponding document

**UP** - 2004-38

*1/1 LEGALI - ©EPO*

**PN** - DE69633148 D1 20040916 [DE69633148]DE69633148 T2 20041230  
 [DE69633148]

**AP** - DE69633148 19961213 [1996DE-6033148]

**ACTE** - 20050908 DE/8364-A [+]  
 NO OPPOSITION DURING TERM OF OPPOSITION

**UP** - 2005-36

*3/14 PLUSPAT - ©QUESTEL-ORBIT*

**PN** - DE69633311 D1 20041007 [DE69633311]

**STG** - (D1) Granted EP number in bulletin

**OTI** - (D1) Für Anzeigen von hoher Qualität geeignete Plasmaanzeigetafel und zugehöriges Herstellungsverfahren

**PA** - (D1) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN** - (D1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJI EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC** - (D1) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49

**PN2** - DE69633311 T2 20050113 [DE69633311]

**STG2** - (T2) Trans. Of EP patent

**OTI2** - (T2) Für Anzeigen von hoher Qualität geeignete Plasmaanzeigetafel und zugehöriges Herstellungsverfahren

**PA2** - (T2) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (T2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJI EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (T2) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49  
**AP** - DE69633311 T 19961213 [1996DE-6033311]  
**PR** - JP32676695 19951215 [1995JP-0326766]  
   JP1632696 19960201 [1996JP-0016326]  
   JP16263996 19960624 [1996JP-0162639]  
   JP22342896 19960826 [1996JP-0223428]  
**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP];  
   H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP];  
   H01J-017/49 [2006-01 A - I R M EP]  
**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-  
   017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49  
   [2006 C - I R M EP]  
**EC** - C23C-016/40D  
   H01J-009/02  
   H01J-017/04  
   H01J-017/20  
   H01J-017/49  
   H01J-017/49D  
**ICO** - T01J-217/491A  
   T01J-217/492B12  
   T01J-217/494  
   T01J-237/31J2  
   T01J-237/32C  
   T01J-237/332B  
**DT** - Corresponding document  
**UP** - 2004-41

*1/1 LEGALI - ©EPO*

**PN** - DE69633311 D1 20041007 [DE69633311]DE69633311 T2 20050113  
   [DE69633311]  
**AP** - DE69633311 19961213 [1996DE-6033311]  
**ACTE** - 20050929 DE/8364-A [+]  
   NO OPPOSITION DURING TERM OF OPPOSITION  
**UP** - 2005-39

*4/14 PLUSPAT - ©QUESTEL-ORBIT - image*

**PN** - EP0779643 A2 19970618 [EP-779643]  
**STG** - (A2) Pub. Of applic. Without search report  
**TI** - (A2) Plasma display panel suitable for high-quality display and production  
   method  
**OTI** - (A2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und  
   Herstellungsverfahren  
   (A2) Panneau l'affichage à plasma convenant à l'affichage de haute qualité et  
   procédé de fabrication  
**PA** - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)

**PA0** - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; 1006, Oaza Kadoma; Kadoma-shi, Osaka-fu, 571 (JP)

**IN** - (A2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC** - (A2) H01J-017/16 H01J-017/20 H01J-017/49

**PN2** - EP0779643 A3 19990310 [EP-779643]

**STG2** - (A3) Publi. Of search report

**TI2** - (A3) Plasma display panel suitable for high-quality display and production method

**OTI2** - (A3) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A3) Panneau l'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

**PA2** - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (A3) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (A3) H01J-017/16 H01J-017/20 H01J-017/49

**PN3** - EP0779643 B1 20030917 [EP-779643]

**STG3** - (B1) Patent

**TI3** - (B1) Plasma display panel suitable for high-quality display

**OTI3** - (B1) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität  
(B1) Panneau d'affichage à plasma convenant à l'affichage de haute qualité

**PA3** - (B1) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN3** - (B1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC3** - (B1) H01J-017/16 H01J-017/20 H01J-017/49

**LA** - ENGLISH (ENG)

**AP** - EP96309148 19961213 [1996EP-0309148]

**PR** - JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]

**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP];  
H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP];  
H01J-017/49 [2006-01 A - I R M EP]

**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]

**EC** - C23C-016/40D  
H01J-009/02

H01J-017/04  
H01J-017/20  
H01J-017/49  
H01J-017/49D  
**ICO** - T01J-217/491A  
T01J-217/492B12  
T01J-217/494  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B  
**DS** - DE FR GB IT  
**DT** - Basic

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*1/1 LEGALI - @EPO*

**PN** - EP0779643 A2 19970618 [EP-779643] EP0779643 A3 19990310 [EP-779643]  
EP0779643 B1 20030917 [EP-779643]

**AP** - EP96309148 19961213 [1996EP-0309148]

**ACTE** -  
19970618 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

19990310 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

19990728 EP/17P-A [+]  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 19990527

20000913 EP/17Q-A [+]  
FIRST EXAMINATION REPORT  
EFFECTIVE DATE: 20000728

20030409 EP/RTI1-A  
TITLE (CORRECTION)  
PLASMA DISPLAY PANEL SUITABLE FOR HIGH-QUALITY DISPLAY

20030917 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20030917 EP/REG-A; GB/FG4D [+]  
GB: EUROPEAN PATENT GRANTED  
<GB>

20030917 EP/PG25-A [-]  
LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT  
INFORM. FROM NAT. OFFICE TO EPO

&lt;IT&gt;

EFFECTIVE DATE: 20030917

LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

20031023 EP/REF-A

CORRESPONDS TO:

(DE 69630004 2003I023 [DE69630004])

20040528 EP/ET-A [+]

FR: TRANSLATION FILED

20040908 EP/26N-A [+]

NO OPPOSITION FILED

EFFECTIVE DATE: 20040618

20080131 EP/PG25-A [-]

LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO

&lt;IT&gt;

EFFECTIVE DATE: 20030917

LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

UP - 2008-07

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*5/14 PLUSPAT - ©QUESTEL-ORBIT - image*

PN - EP1164620 A2 20011219 [EPI164620]

STG - (A2) Pub. Of applic. Without search report

TI - (A2) Plasma display panel suitable for high-quality display and production method

OTI - (A2) Für Anzeigen von hoher Qualität geeignete Plasmaanzeigetafel und zugehöriges Herstellungsverfahren  
(A2) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

PA - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)

PA0 - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; I006, Oaza Kadoma; Kadoma-shi, Osaka 571 (JP)

IN - (A2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

IC - (A2) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49

PN2 - EP1164620 A3 20020102 [EP1164620]

STG2 - (A3) Publi. Of search report

TI2 - (A3) Plasma display panel suitable for high-quality display and production

method

**OTI2** - (A3) Für Anzeigen von hoher Qualität geeignete Plasmaanzeigetafel und zugehöriges Herstellungsverfahren  
(A3) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

**PA2** - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (A3) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (A3) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49

**PN3** - EPI1164620 BI 20040901 [EPI1164620]

**STG3** - (B1) Patent

**TI3** - (B1) Plasma display panel suitable for high-quality display and production method

**OTI3** - (B1) Für Anzeigen von hoher Qualität geeignete Plasmaanzeigetafel und zugehöriges Herstellungsverfahren  
(B1) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

**PA3** - (B1) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN3** - (B1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC3** - (B1) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49

**LA** - ENGLISH (ENG)

**AP** - EP01116788 19961213 [2001EP-0116788]

**PR** - EP96309148 19961213 [1996EP-0309148]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]

**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP]; H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP]; H01J-017/49 [2006-01 A - I R M EP]

**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]

**EC** - C23C-016/40D  
C23C-016/40F  
H01J-009/02  
H01J-017/04  
H01J-017/20  
H01J-017/49  
H01J-017/49D

**ICO** - T01J-217/492B12  
T01J-237/31J2

T01J-237/32C  
T01J-237/332B

DS - DE FR GB IT  
DT - Corresponding document  
UP - 2001-51

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*III LEGALI - @EPO*

PN - EP1164620 A2 20011219 [EP1164620]EP1164620 A3 20020102 [EP1164620]  
EP1164620 B1 20040901 [EP1164620]

AP - EP01116788 19961213 [2001EP-0116788]

ACTE -  
20011219 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 779643 [EP-779643])

20011219 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20011219 EP/17P-A [+]  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 20010813

20020102 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20020703 EP/17Q-A [+]  
FIRST EXAMINATION REPORT  
EFFECTIVE DATE: 20020521

20020918 EP/AKX-A [+]  
PAYMENT OF DESIGNATION FEES  
DE FR GB IT

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
AOKI, MASAKI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
TORII, HIDEO

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
FUJI, EIJI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)

OHTANI, MITSUHIRO

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
INAMI, TAKASHI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
KAWAMURA, HIROYUKI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
TANAKA, HIROYOSHI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
MURAI, RYUICHI

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
ISHIKURA, YASUHISA

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
NISHIMURA, YUTAKA

20040317 EP/RIN1-A  
INVENTOR (CORRECTION)  
YAMASHITA, KATSUYOSHI

20040901 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 0779643 0 [EP-779643])

20040901 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20040901 EP/REG-A; GB/FG4D [+]  
GB: EUROPEAN PATENT GRANTED  
<GB>

20041007 EP/REF-A  
CORRESPONDS TO:  
(DE 69633311 20041007 [DE69633311])

20050722 EP/ET-A [+]  
FR: TRANSLATION FILED

20050824 EP/26N-A [+]  
NO OPPOSITION FILED

EFFECTIVE DATE: 20050602

20061207 EP/PGFP-A [+]

POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE

<DE>

PAYMENT DATE: 20061207; PAYMENT YEAR: 11

20061208 EP/PGFP-A [+]

POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE

<FR>

PAYMENT DATE: 20061208; PAYMENT YEAR: 11

20061213 EP/PGFP-A [+]

POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE

<GB>

PAYMENT DATE: 20061213; PAYMENT YEAR: 11

20061231 EP/PGFP-A [+]

POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE

<IT>

PAYMENT DATE: 20061231; PAYMENT YEAR: 11

UP - 2008-08

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6/14 PLUSPAT - ©QUESTEL-ORBIT - image

PN - EP1221708 A2 20020710 [EP1221708]

STG - (A2) Publ. Of applic. Without search report

TI - (A2) Plasma display panel suitable for high-quality display and production method

OTI - (A2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A2) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

PA - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)

PA0 - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; 1006, Oaza Kadoma; Kadoma-shi, Osaka 571 (JP)

IN - (A2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

IC - (A2) H01J-009/02 H01J-017/49

PN2 - EP1221708 A3 20021204 [EP1221708]

STG2 - (A3) Publi. Of search report

TI2 - (A3) Plasma display panel suitable for high-quality display and production method

OTI2 - (A3) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A3) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et

procédé de fabrication

**PA2** - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (A3) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (A3) H01J-009/02 H01J-017/49

**LA** - ENGLISH (ENG)

**AP** - EP02006618 19961213 [2002EP-0006618]

**PR** - EP01116788 19961213 [2001EP-0116788]  
EP96309148 19961213 [1996EP-0309148]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]

**ICAA** - C23C-016/40 [2006-01 A - 1 R M EP]; H01J-009/02 [2006-01 A - 1 R M EP]; H01J-009/20 [2006-01 A - 1 R M EP]; H01J-009/24 [2006-01 A - 1 R M EP]; H01J-017/04 [2006-01 A - 1 R M EP]; H01J-017/20 [2006-01 A - 1 R M EP]; H01J-017/49 [2006-01 A - 1 R M EP]

**ICCA** - C23C-016/40 [2006 C - 1 R M EP]; H01J-009/02 [2006 C - 1 R M EP]; H01J-009/20 [2006 C - 1 R M EP]; H01J-009/24 [2006 C - 1 R M EP]; H01J-017/02 [2006 C - 1 R M EP]; H01J-017/04 [2006 C - 1 R M EP]; H01J-017/49 [2006 C - 1 R M EP]

**EC** - H01J-009/24B  
C23C-016/40D  
H01J-009/02  
H01J-009/20  
H01J-017/04  
H01J-017/20  
H01J-017/49D

**ICO** - T01J-209/01B1  
T01J-217/492B12  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B

**DS** - DE FR GB IT

**DT** - Corresponding document

**UP** - 2002-28

**1/1 LEGALI - @EPO**

**PN** - EP1221708 A2 20020710 [EP1221708]EP1221708 A3 20021204 [EP1221708]

**AP** - EP02006618 19961213 [2002EP-0006618]

**ACTE** - 20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 779643 [EP-779643])

20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 1164620 [EP1164620])

20020710 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20020710 EP/17P-A [+]  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 20020416

20021204 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20030827 EP/AKX-A [+]  
PAYMENT OF DESIGNATION FEES  
DE FR GB IT

20030917 EP/17Q-A [+]  
FIRST EXAMINATION REPORT  
EFFECTIVE DATE: 20030730

20040512 EP/18D-A [-]  
DEEMED TO BE WITHDRAWN  
EFFECTIVE DATE: 20031211

UP - 2004-20

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7/14 PLUSPAT - ©QUESTEL-ORBIT - image

PN - EP1221709 A2 20020710 [EP1221709]

STG - (A2) Pub. Of applic. Without search report

TI - (A2) Plasma display panel suitable for high-quality display and production method

OTI - (A2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A2) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

PA - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)

PA0 - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; 1006, Oaza Kadoma; Kadoma-shi, Osaka 571 (JP)

IN - (A2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

IC - (A2) H01J-009/02 H01J-017/49

PN2 - EP1221709 A3 20021211 [EP1221709]

**STG2** - (A3) Publi. Of search report

**TI2** - (A3) Plasma display panel suitable for high-quality display and production method

**OTI2** - (A3) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A3) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

**PA2** - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (A3) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (A3) H01J-009/02 H01J-017/49

**LA** - ENGLISH (ENG)

**AP** - EP02006619 19961213 [2002EP-0006619]

**PR** - EP01116788 19961213 [2001EP-0116788]  
EP96309148 19961213 [1996EP-0309148]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]

**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP];  
H01J-009/20 [2006-01 A - I R M EP]; H01J-009/24 [2006-01 A - I R M EP];  
H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP];  
H01J-017/49 [2006-01 A - I R M EP]

**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-009/20 [2006 C - I R M EP]; H01J-009/24 [2006 C - I R M EP]; H01J-017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]

**EC** - H01J-009/24B  
C23C-016/40D  
H01J-009/02  
H01J-009/20  
H01J-017/04  
H01J-017/20  
H01J-017/49D

**ICO** - T01J-209/01B1  
T01J-217/492B12  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B

**DS** - DE FR GB IT

**DT** - Corresponding document

**UP** - 2002-28

**PN** - EP1221709 A2 20020710 [EP1221709]EP1221709 A3 20021211 [EP1221709]

**AP** - EP02006619 19961213 [2002EP-0006619]

**ACTE** - 20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 779643 [EP-779643])

20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 1164620 [EP1164620])

20020710 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20020710 EP/17P-A [+]  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 20020416

20021211 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20030903 EP/AKX-A [+]  
PAYMENT OF DESIGNATION FEES  
DE FR GB IT

20030917 EP/17Q-A [+]  
FIRST EXAMINATION REPORT  
EFFECTIVE DATE: 20030730

20040512 EP/18D-A [-]  
DEEMED TO BE WITHDRAWN  
EFFECTIVE DATE: 20031211

**UP** - 2004-20

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*8/14 PLUSPAT - ©QUESTEL-ORBIT - image*

**PN** - EP1221711 A2 20020710 [EP1221711]

**STG** - (A2) Pub. Of applic. Without search report

**TI** - (A2) Plasma display panel suitable for high-quality display and production method

**OTI** - (A2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A2) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication

**PA** - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)

**PA0** - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; 1006, Oaza Kadoma; Kadoma-shi, Osaka 571 (JP)

**IN** - (A2) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI

MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP);  
TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA  
(JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC** - (A2) H01J-009/02 H01J-017/04 H01J-017/20 H01J-017/49

**PN2** - EP1221711 A3 20021218 [EP1221711]

**STG2** - (A3) Publi. Of search report

**TI2** - (A3) Plasma display panel suitable for high-quality display and production  
method

**OTI2** - (A3) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und  
Herstellungsverfahren  
(A3) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et  
procédé de fabrication

**PA2** - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN2** - (A3) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI  
MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP);  
TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA  
(JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC2** - (A3) C03C-017/34 H01J-017/49

**PN3** - EP1221711 B1 20040811 [EP1221711]

**STG3** - (B1) Patent

**TI3** - (B1) Plasma display panel suitable for high-quality display and production  
method

**OTI3** - (B1) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und  
Herstellungsverfahren  
(B1) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et  
procédé de fabrication

**PA3** - (B1) MATSUSHITA ELECTRIC IND CO LTD (JP)

**IN3** - (B1) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI  
MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP);  
TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA  
(JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

**IC3** - (B1) C03C-017/34 H01J-017/49

**LA** - ENGLISH (ENG)

**AP** - EP02006620 19961213 [2002EP-0006620]

**PR** - EP01116788 19961213 [2001EP-0116788]  
EP96309148 19961213 [1996EP-0309148]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]

**ICAA** - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP];  
H01J-009/20 [2006-01 A - I R M EP]; H01J-009/24 [2006-01 A - I R M EP];  
H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP];  
H01J-017/49 [2006-01 A - I R M EP]

**ICCA** - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-  
009/20 [2006 C - I R M EP]; H01J-009/24 [2006 C - I R M EP]; H01J-017/02

[2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]

**EC** - H01J-009/24B  
C23C-016/40D  
H01J-009/02  
H01J-009/20  
H01J-017/04  
H01J-017/20  
H01J-017/49D

**ICO** - T01J-209/01B1  
T01J-217/492B12  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B

**DS** - DE FR GB IT

**DT** - Basic

**UP** - 2002-28

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*1/1 LEGALI - ©EPO*

**PN** - EP1221711 A2 20020710 [EP1221711] EP1221711 A3 20021218 [EP1221711]  
EP1221711 B1 20040811 [EP1221711]

**AP** - EP02006620 19961213 [2002EP-0006620]

**ACTE** - 20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 779643 [EP-779643])

20020710 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 1164620 [EP1164620])

20020710 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20020710 EP/17P-A [+]  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 20020416

20021218 EP/RIC1-A  
CLASSIFICATION (CORRECTION)  
7H 01J 17/49 A, 7C 03C 17/34 B

20021218 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20030910 EP/AKX-A [+]  
PAYMENT OF DESIGNATION FEES

DE FR GB IT

20030917 EP/17Q-A [+]  
FIRST EXAMINATION REPORT  
EFFECTIVE DATE: 20030730

20040811 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 1164620 0 [EP1164620])

20040811 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 0779643 0 [EP-779643])

20040811 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB IT

20040811 EP/REG-A; GB/FG4D [+]  
GB: EUROPEAN PATENT GRANTED  
<GB>

20040916 EP/REF-A  
CORRESPONDS TO:  
(DE 69633148 20040916 [DE69633148])

20050610 EP/ET-A [+]  
FR: TRANSLATION FILED

20050803 EP/26N-A  
NO OPPOSITION FILED  
EFFECTIVE DATE: 20050512

20061207 EP/PGFP-A [+]  
POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE  
<DE>  
PAYMENT DATE: 20061207; PAYMENT YEAR: 11

20061208 EP/PGFP-A [+]  
POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE  
<FR>  
PAYMENT DATE: 20061208; PAYMENT YEAR: 11

20061213 EP/PGFP-A [+]  
POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE  
<GB>  
PAYMENT DATE: 20061213; PAYMENT YEAR: 11

20061231 EP/PGFP-A [+]  
POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE  
<IT>

PAYMENT DATE: 20061231; PAYMENT YEAR: 11

UP - 2008-08

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9/14 PLUSPAT - ©QUESTEL-ORBIT - image

PN - EP1333462 A2 20030806 [EP1333462]  
STG - (A2) Publ. Of applic. Without search report  
TI - (A2) Plasma display panel suitable for high-quality display and production method  
OTI - (A2) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A2) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication  
PA - (A2) MATSUSHITA ELECTRIC IND CO LTD (JP)  
PA0 - MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.; 1006, Oaza-Kadoma; Kadoma-shi, Osaka 571-8501 (JP)  
IN - (A2) AOKI MASAKI (JP); TORI HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUSHIRO (JP); INAM TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YATAKA (JP); YAMASHITA KATSUYOSHI (JP)  
IC - (A2) H01J-017/20 H01J-017/49  
PN2 - EP1333462 A3 20071205 [EP1333462]  
STG2 - (A3) Publi. Of search report  
TI2 - (A3) Plasma display panel suitable for high-quality display and production method  
OTI2 - (A3) Plasmaanzeigetafel geeignet für Anzeige hoher Qualität und Herstellungsverfahren  
(A3) Panneau d'affichage à plasma convenant à l'affichage de haute qualité et procédé de fabrication  
PA2 - (A3) MATSUSHITA ELECTRIC IND CO LTD (JP)  
IN2 - (A3) AOKI MASAKI (JP); TORI HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUSHIRO (JP); INAM TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YATAKA (JP); YAMASHITA KATSUYOSHI (JP)  
IC2 - (A3) C23C-016/40 H01J-009/02 H01J-017/02 H01J-017/04 H01J-017/20 H01J-017/49  
LA - ENGLISH (ENG)  
AP - EP03075897 19961213 [2003EP-0075897]  
PR - EP96309148 19961213 [1996EP-0309148]  
JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
ICAA - H01J-017/20 [2006-01 A F I B H EP]; C23C-016/40 [2006-01 A - I R M EP];  
H01J-009/02 [2006-01 A - I R M EP]; H01J-017/04 [2006-01 A - I R M EP];  
H01J-017/49 [2006-01 A L I B H EP]

**ICCA** - H01J-017/02 [2006 C F 1 B H EP]; C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C L 1 B H EP]  
**EC** - C23C-016/40D  
C23C-016/40F  
H01J-009/02  
H01J-017/04  
H01J-017/20  
H01J-017/49  
H01J-017/49D  
**ICO** - T01J-217/492B12  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B  
**DS** - DE FR GB 1T  
**DT** - Basic  
**UP** - 2003-32

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*1/1 LEGALI - ©EPO*

**PN** - EP1333462 A2 20030806 [EP1333462]  
**AP** - EP03075897 19961213 [2003EP-0075897]  
**ACTE** - 20030806 EP/AC-A  
DIVISIONAL APPLICATION (ART. 76) OF:  
(EP 0779643 [EP-779643])

20030806 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB 1T

20030806 EP/I7P-A [+].  
REQUEST FOR EXAMINATION FILED  
EFFECTIVE DATE: 20030416

20071205 EP/AK-A [+]  
DESIGNATED CONTRACTING STATES:  
DE FR GB 1T

**UP** - 2007-49

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*10/14 PLUSPAT - ©QUESTEL-ORBIT - image*

**PN** - JP2002093327 A 20020329 [JP2002093327]  
**STG** - (A) Doc. Laid open to publ. Inspec.  
**TI** - (A) PLASMA DISPLAY PANEL  
**PA** - (A) MATSUSHITA ELECTRIC IND CO LTD  
**PA0** - (A) MATSUSHITA ELECTRIC IND CO LTD  
**IN** - (A) AOKI MASAKI; TORII HIDEO; FUJI AKIYUKI; OTANI MITSUHIRO;  
INAMI TAKASHI; MURAI RYUICHI; NISHIMURA YUTAKA; ISHIKURA

YASUHISA; YAMASHITA KATSUYOSHI; KAWAMURA HIROYUKI;  
TANAKA HIROYOSHI

**IC** - (A) H01J-009/38 H01J-011/02

**AP** - JP2001226563 20010726 [2001JP-0226563]

**PR** - JP2001226563 20010726 [2001JP-0226563]  
JP32676695 19951215 [1995JP-0326766]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
JP1632696 19960201 [1996JP-0016326]

**ICAA** - H01J-011/02 [2006-01 A F I R M JP]; H01J-009/38 [2006-01 A - 1 R M EP]

**ICCA** - H01J-011/02 [2006 C F I R M JP]; H01J-009/38 [2006 C - 1 R M EP]

**FI** - H01J11/02 A

**FTM** - SC040 FA01; SC040 GB03; SC040 GE07; SC040 GE09; SC040 GJ02; SC040 GJ04; SC040 MA03

**DT** - Corresponding document

**UP** - 2002-17

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11/14 PLUSPAT - ©QUESTEL-ORBIT - image

**PN** - JP2007173251 A 20070705 [JP2007173251]

**STG** - (A) Doc. Laid open to publ. Inspec.

**TI** - (A) PLASMA DISPLAY PANEL, AND MANUFACTURING METHOD OF THE SAME

**PA** - (A) MATSUSHITA ELECTRIC IND CO LTD

**PA0** - MATSUSHITA ELECTRIC IND CO LTD

**IN** - (A) AOKI MASAKI; TORII HIDEO; FUJII AKIYUKI; OTANI MITSUHIRO; INAMI TAKASHI; MURAI RYUICHI; NISHIMURA YUTAKA; ISHIKURA YASUHISA; YAMASHITA KATSUYOSHI; KAWAMURA HIROYUKI; TANAKA HIROYOSHI

**IC** - (A) H01J-009/02 H01J-009/38 H01J-009/395 H01J-011/02

**AP** - JP2007017154 20070126 [2007JP-0017154]

**PR** - JP32676695 19951215 [1995JP-0326766]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
JP1632696 19960201 [1996JP-0016326]  
JP2007017154 20070126 [2007JP-0017154]

**ICAA** - H01J-011/02 [2006-01 A F I B H JP]; H01J-009/02 [2006-01 A L I B H JP]; H01J-009/395 [2006-01 A L I B H JP]

**ICCA** - H01J-011/02 [2006 C F I B H JP]; H01J-009/02 [2006 C L I B H JP]; H01J-009/38 [2006 C L I B H JP]

**FI** - H01J11/02 A; H01J9/395 A; H01J9/02 F; H01J11/02 B

**FTM** - SC012 AA05; SC012 BD03; SC027 AA07; SC027 AA10; SC040 FA01; SC040 FA04; SC040 GB03; SC040 GB14; SC040 GC18; SC040 GC19; SC040 GD01; SC040 GD07; SC040 GD09; SC040 GE01; SC040 GE07; SC040 GE08; SC040 GE09; SC040 GF01; SC040 GG03; SC040 GG08; SC040 GJ02; SC040 GJ04; SC040 GJ08; SC040 HA01; SC040 HA04; SC040 JA02; SC040 JA07; SC040

JA12; 5C040 JA22; 5C040 JA24; 5C040 KA01; 5C040 KA08; 5C040 KA14;  
5C040 KA17; 5C040 KB08; 5C040 KB13; 5C040 KB22; 5C040 KB28; 5C040  
MA03; 5C040 MA05; 5C040 MA10; 5C040 MA12

**DT** - Corresponding document

**UP** - 2007-32

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*12 / 14 PLUSPAT - ©QUESTEL-ORBIT - image*

**PN** - JP10125237 A 19980515 [JP10125237]

**STG** - (A) Doc. Laid open to publ. Inspec.

**TI** - (A) PLASMA DISPLAY PANEL AND ITS MANUFACTURE

**PA** - (A) MATSUSHITA ELECTRIC IND CO LTD

**PA0** - (A) MATSUSHITA ELECTRIC IND CO LTD

**IN** - (A) AOKI MASAKI; TORII HIDEO; FUJII AKIYUKI; OTANI MITSUHIRO;  
INAMI TAKASHI; KAWAMURA HIROYUKI; TANAKA HIROYOSHI;  
MURAI RYUICHI; NISHIMURA YUTAKA; ISHIKURA YASUHISA;  
YAMASHITA KATSUYOSHI

**IC** - (A) H01J-009/02 H01J-011/00 H01J-011/02

**PN2** - JP3339554 B2 20021028 [JP3339554]

**STG2** - (B2) Grant. Pat. With A from 2500000 on

**IC2** - (B2) H01J-009/02 H01J-011/00 H01J-011/02

**AP** - JP32845896 19961209 [1996JP-0328458]

**PR** - JP32845896 19961209 [1996JP-0328458]  
JP32676695 19951215 [1995JP-0326766]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
JP1632696 19960201 [1996JP-0016326]

**ICAA** - H01J-009/02 [2006-01 A F I R M JP]; H01J-011/00 [2006-01 A L I R M JP];  
H01J-011/02 [2006-01 A L I R M JP]

**ICCA** - H01J-009/02 [2006 C F I R M JP]; H01J-011/00 [2006 C L I R M JP]; H01J-  
011/02 [2006 C L I R M JP]

**FI** - H01J9/02 F; H01J11/00 K; H01J11/02 B

**FTM** - 5C027 AA09; 5C027 AA10; 5C040 AA05; 5C040 BB02; 5C040 BB03; 5C040  
BB05; 5C040 BB06; 5C040 BB08; 5C040 CC01; 5C040 DD05; 5C040 DD06;  
5C040 DD07; 5C040 DD09; 5C040 DD11; 5C040 DD13; 5C040 DD15; 5C040  
EE01; 5C040 MA03; 5C040 MA05; 5C040 MA10; 5C040 MA17; 5C040 FA01;  
5C040 FA04; 5C040 GB03; 5C040 GB14; 5C040 GE07; 5C040 GE08; 5C040  
GE09; 5C040 GG08; 5C040 GJ02; 5C040 GJ04; 5C040 GJ08; 5C040 JA03;  
5C040 JA07; 5C040 JA12; 5C040 JA22; 5C040 KA04; 5C040 KA05; 5C040  
KA07; 5C040 KB03; 5C040 KB08; 5C040 KB22; 5C040 KB28; 5C040 KB29;  
5C040 LA10; 5C040 LA14

**DT** - Corresponding document

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*13 / 14 PLUSPAT - ©QUESTEL-ORBIT - image*

**PN** - US5770921 A 19980623 [US5770921]

STG - (A) United States patent  
TI - (A) Plasma display panel with protective layer of an alkaline earth oxide  
PA - (A) MATSUSHITA ELECTRIC CO LTD (JP)  
PA0 - Matsushita Electric Company, Ltd., Osaka-fu [JP]  
IN - (A) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)  
IC - (A) H01J-017/00 H01J-061/00  
AP - US76603096 19961216 [1996US-0766030]  
PR - JP32676695 19951215 [1995JP-0326766]  
JP1632696 19960201 [1996JP-0016326]  
JP16263996 19960624 [1996JP-0162639]  
JP22342896 19960826 [1996JP-0223428]  
ICAA - C23C-016/40 [2006-01 A - I R M EP]; H01J-009/02 [2006-01 A - I R M EP]; H01J-017/04 [2006-01 A - I R M EP]; H01J-017/20 [2006-01 A - I R M EP]; H01J-017/49 [2006-01 A - I R M EP]  
ICCA - C23C-016/40 [2006 C - I R M EP]; H01J-009/02 [2006 C - I R M EP]; H01J-017/02 [2006 C - I R M EP]; H01J-017/04 [2006 C - I R M EP]; H01J-017/49 [2006 C - I R M EP]  
EC - C23C-016/40D  
H01J-009/02  
H01J-017/04  
H01J-017/20  
H01J-017/49  
H01J-017/49D  
ICO - T01J-217/491A  
T01J-217/492B12  
T01J-217/494  
T01J-237/31J2  
T01J-237/32C  
T01J-237/332B  
PCL - ORIGINAL (O) : 313581000; CROSS-REFERENCE (X) : 313572000  
313582000 313586000  
DT - Corresponding document

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*1/1 LEGALI - ©EPO*

PN - US5770921 A 19980623 [US5770921]  
AP - US76603096 19961216 [1996US-0766030]  
ACTE - 19961216 US/AS02-A  
ASSIGNMENT OF ASSIGNEE'S INTEREST  
OWNER: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. 1006, OAZ;  
EFFECTIVE DATE: 19961206

19961216 US/AS02-A  
ASSIGNMENT OF ASSIGNEE'S INTEREST

OWNER: AOKI, MASAKI; EFFECTIVE DATE: 19961206

19961216 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: TORII, HIDEO; EFFECTIVE DATE: 19961206

19961216 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: FUJII, EIJI; EFFECTIVE DATE: 19961206

19961216 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHTANI, MITSUHIRO; EFFECTIVE DATE: 19961206

19961216 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: INAMI, TAKASHI; EFFECTIVE DATE: 19961206

UP - 2003-22

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14/14 PLUSPAT - ©QUESTEL-ORBIT - image

PN - US5993543 A 19991130 [US5993543]

STG - (A) United States patent

TI - (A) Method of producing plasma display panel with protective layer of an alkaline earth oxide

PA - (A) MASAKI AOKI (JP)

PA0 - Masaki Aoki Et Al., [JP]

IN - (A) AOKI MASAKI (JP); TORII HIDEO (JP); FUJII EIJI (JP); OHTANI MITSUHIRO (JP); INAMI TAKASHI (JP); KAWAMURA HIROYUKI (JP); TANAKA HIROYOSHI (JP); MURAI RYUICHI (JP); ISHIKURA YASUHISA (JP); NISHIMURA YUTAKA (JP); YAMASHITA KATSUYOSHI (JP)

IC - (A) C30B-023/00 C30B-029/16

AP - US89057797 19970709 [1997US-0890577]

PR - US89057797 19970709 [1997US-0890577]

JP32676695 19951215 [1995JP-0326766]

JP1632696 19960201 [1996JP-0016326]

JP16263996 19960624 [1996JP-0162639]

JP22342896 19960826 [1996JP-0223428]

US76603096 19961216 [1996US-0766030]

ICAA - C30B-023/00 [2006-01 A - I R M EP]; C30B-029/16 [2006-01 A - I R M EP]

ICCA - C30B-023/00 [2006 C - I R M EP]; C30B-029/10 [2006 C - I R M EP]

ICO - T01J-217/491A

T01J-217/492C4

T01J-217/494

PCL - ORIGINAL (O) : 117088000; CROSS-REFERENCE (X) : 117101000  
117103000 117104000 117944000

DT - Basic

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*1/1 LEGALI - ©EPO*

**PN** - US5993543 A 19991130 [US5993543]

**AP** - US89057797 19970709 [1997US-0890577]

**ACTE** - 20020528 US/RF-A  
REISSUE APPLICATION FILED  
EFFECTIVE DATE: 20011129

20060718 US/RF-A  
REISSUE APPLICATION FILED  
EFFECTIVE DATE: 20060518

**UP** - 2006-29

Search statement 3